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User's Guide for Survey Meter and Film Badge Dosimetry Data Bases

(U.S.) Environmental Monitoring and Support Lab.
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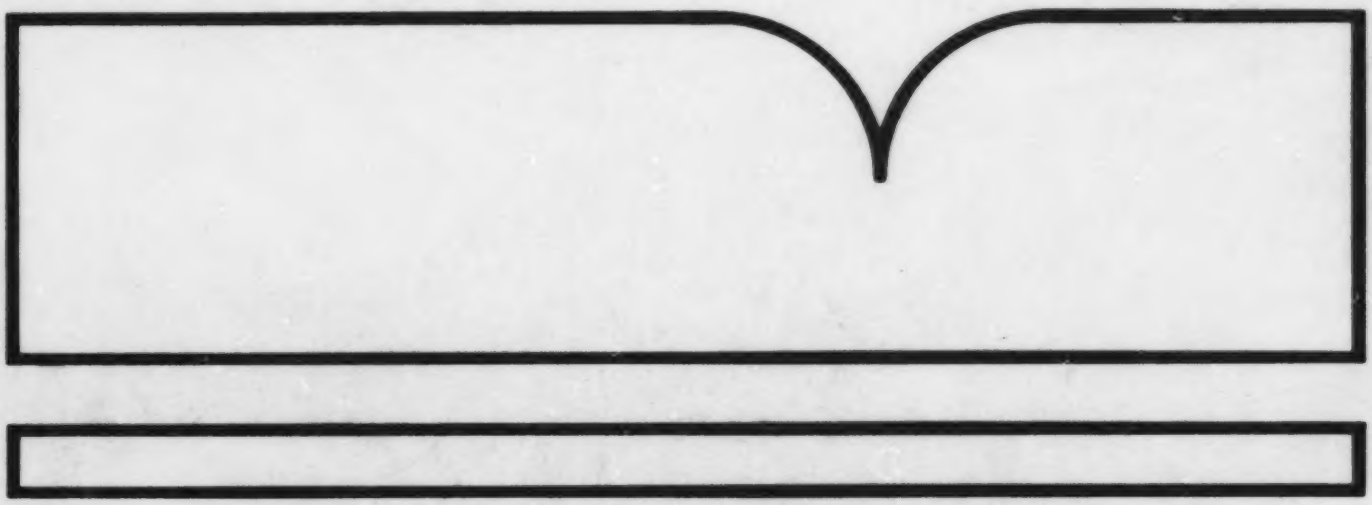

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This manual describes the Nevada Test Site data storage and retrieval system designed by the U.S. Environmental Protection Agency. This system contains two distinct subsets of off-site radiological measurements collected during early nuclear atmospheric tests at the Nevada Test Site.

The purpose of the manual is to present the methods for using the EPA system to examine all or any portion of either data subset.

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USER'S GUIDE FOR SURVEY METER AND FILM BADGE DOSIMETRY DATA BASES

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INTRODUCTION

This manual describes the data storage and retrieval system designed by Environmental Monitoring Systems Laboratory Las Vegas (EMSL-LV) for radiation exposure data recorded in offsite areas during and after nuclear weapons tests conducted at the Nevada Test Site in the 1950's and early 1960's. Referred to hereinafter as the EMSL-LV system, this system contains two distinct subsets of offsite radiological measurements collected during early nuclear atmospheric tests at the Nevada Test Site. The purpose of the manual is to present the methods for using the EMSL-LV system to examine all or any portion of either data subset.

The two distinct subsets which comprise the EMSL-LV system are survey meter data and film badge dosimetry data. Each subset of data is referenced as a table of rows of individual values, locations, times, dates, and other pertinent information. Examples of the two subsets of data are illustrated in Tables I and II. Definitive titles on the columns of data which comprise each row are referred to as attributes.

Although each of the two subsets of data contains many similar attributes, there are important differences. Because of these differences, the survey meter data and the dosimetry data are kept on separate files. The file containing all of the survey meter data is called SURVEY METER DATA BASE, and the file containing all of the dosimetry data is called DOSIMETRY DATA BASE.

The user will be required, upon making initial entry into the EMSL-LV system, to select either the Survey Meter Data Base or the Dosimetry Data Base. The EMSL-LV system will not allow the user to select both subsets simultaneously or to alter the data in either data base.

The survey meter data consist of readings obtained from portable radiation monitoring instruments used around the Nevada Test Site during the 1950's and early 1960's to measure radiation exposure rates resulting from the nuclear testing program. These meters, primarily the AN/PDR-T1B and the MX-5, were generally supplied to monitors in duplicate, and almost all readings were "gamma" only. The typical procedure for generating a data-point was to make a reading at hip height (1 meter) above the terrain, with the beta shield closed. Each of these readings was then logged along with the geographical location, date, and time of day. This data base, then, represents the transcription of data from the original monitoring logs to a computer-compatible magnetic file. The format of the survey meter data is illustrated in Table I. Each attribute in Table I has a keyword and is explained further in Table III.

The dosimetry data consist of measurements of integrated radiation exposure made with film badge type dosimeters in areas surrounding the Nevada Test Site. These film badges were placed inside and outside of structures, worn by personnel, and literally taped to road signs or other structures during the 1950's and early 1960's. After a test or series of tests, the film was collected, developed, and read for total exposure using a densitometer. The results of these measurements were then published in U.S. Public Health Service reports as public information. The dosimetry data base represents these results transcribed from the original reports to a computer-compatible file. The format of the dosimetry data is illustrated in Table II. Each attribute in Table II has a keyword and is explained in Table IV.

USING THE EMSL-LV SYSTEM

Once the user selects the Survey Meter or Dosimetry Data Base he can only examine the data within that specific data base. However, instead of requesting either of these data bases, he may choose to examine a data file. This file may be one created from a previous retrieval using the EMSL-LV system. The file may be a subset of either data base, or the file may contain all of the survey meter data or all of the dosimetry data.

Once any file is selected for examination, the user may retrieve rows of information based on any attribute or combination of attributes. The user may then sort the retrieved information based on any attributes with secondary sorts based on any other attributes. Finally, the user may store the retrieved and sorted information on a file for subsequent examination, print it in a form suitable for editing, or print the information in a final report form. In addition, the user may replace by blanks the data associated with any attributes. This option is offered since the blanking of certain data fields may be required in compliance with privacy regulations.

ACCESS

Accessing the system requires using a terminal with an account secured through a U.S. Department of Energy access code.

To obtain the DOE access code: call the Nevada Operations Office of the Department of Energy. Refer to the DOE/NV central computer facility manual for full details of the LOGIN procedure. (An example of the LOGIN procedure is presented in Table V).

Once the system is accessed, there are several system commands that the user may find useful:

To terminate unwanted output, type:

```
X%A CR
CALL CLEANUP,*EPADB.CR
```

Cleanup is a program which restores all files properly.

To terminate the terminal session, type:

```
LOGOUT CR
```

To terminate an executing process that is not outputting data, type:

```
%A.CR
CALL CLEANUP,*EPADB.CR
```

To delete a complete line of erroneous instructions, type:

```
CONTROL-X.CR
```

NOTE: CR = carriage return
CONTROL-X = simultaneously hold down the key marked CNTRL and X.

Survey Meter Data Base

To access the system initially (after the computer's COMMAND query), type:

```
CALL EPADB,*EPADB.CR
```

The computer will respond with:

```
U.S. ENVIRONEMNTAL PROTECTION AGENCY
NTS OFF-SITE HISTORICAL DATA RETRIEVAL
SYSTEM.  80/02/21  08.44.33
ENTER 'HELP' FOR MORE INFORMATION

ENTER DIRECTIVE.>
```

The user may then type in a command to the ENTER DIRECTIVE.> query.

NOTE: All commands entered must be followed by a period and a carriage return. For example, if more information on system operation were required, the user would enter HELP. CR. A summary of all possible user commands accompanied by explanations would then be printed on the user terminal. The HELP command may be typed at any time in response to the ENTER DIRECTIVE query.

Assuming that the user is well versed in the operation of the EPA system and the HELP command is not required, the first reponse to system query is to select either the Survey Meter or Dosimetry subset system.

Here we assume the Survey Meter subset is desired. Hence,

To select the entire data base, type:

```
SELECT SURVEY METER DATA BASE.  CR
```

To select a separate user-created data base file generated by a previous data retrieval session, type:

```
SELECT USER SURVEY METER DATA BASE.  CR
```

If the second option, USER DATA BASE, is chosen, the system will request information to identify the file on which the data base is stored, by typing: ENTER USER DATA BASE ACCESS INFORMATION (<=60 characters). An example response to this query would be similar to the following:

MINI,ID=EPADB, CY=1,MR=1.CR

This command would select cycle 1 of a file called MINI under the user identification EPADB. By setting the parameter MR equal to 1, other users may access the same file simultaneously while logged on at other terminals.

Once the data base file is selected, any or all of the following commands may be entered, along with the respective KEYWORD attributes associated with each: RETRIEVE, SORT, HELP, OUTPUT or DISPLAY, and OMIT. If the same command with different KEYWORD attributes is entered more than once, only the last string entered is valid. Every command must fit on one line and each line must be 80 characters or less ending with a period and CR.

The RETRIEVE command selects data records based on keyword values. Each record is a row of data as described in Table I. If the RETRIEVE command is not used, all records are automatically retrieved. All keywords are listed in Table III and only BKGD EXPOSURE RATE and COMMENTS are not valid for retrieval keywords. The general form of the RETRIEVE command is:

RETRIEVE RECORDS BY <KEYWORD 1><PARAMETER SET 1><KEYWORD 2><PARAMETER SET

2>,..., <KEYWORD N,PARAMETER SET N> .CR.

As many Keyword and Parameter sets as desired may be used up to the 80 character line limit.

The parameter set associated with each keyword in Table III is the parametric description of what is desired of the retrieval. For example:

RETRIEVE RECORDS BY DATE 550322, STATE NV, SHOT NAME BEE.CR

retrieves all records with the DATE attribute = 550322, STATE attribute = NV and SHOT NAME attribute = BEE. In the case of the keyword VALUE, the parameter set may be an actual number or a value from which a greater-than or equal-to comparison is to be made.

For example:

RETRIEVE RECORDS BY VALUE 15.0.CR

retrieves all records with gross exposure rate = 15.0

RETRIEVE RECORDS BY VALUE GREATER THAN OR EQUAL 1.50E1.CR

retrieves all records with gross exposure rate $\geq$ 15.0

There are several other keywords that can be used in retrieval which involve combinations of fields or ranges of values. These are listed in Table VI.

The SORT command sorts data records based upon the keywords listed in Table III. The retrieved records will not be sorted unless the SORT command is used. BKGD EXPOSURE RATE and COMMENTS are not valid keywords for sorting. The general form of the SORT command is:

SORT RECORDS BY <KEYWORD1>,<KEYWORD2>...,<KEYWORDN>.CR

For example,

SORT RECORDS BY SHOT NAME,DATE,TIME.CR

will first sort by SHOT NAME then sort by DATE and finally sort by TIME.

The OUTPUT command selects the location and form of the retrieved information. If the OUTPUT command is not used, the information is displayed on the terminal. The general form of the OUTPUT command is

OUTPUT IS <PARAMETER>

where <PARAMETER> is either FINAL REPORT, EDIT LISTING, or FILE <FILENAME>. If the <PARAMETER> is FINAL REPORT, or EDIT LISTING, the system will request a title of up to 100 characters and the destination for the output. The choices for destination are:

C for DOE building, RE for REECO, VP for EPA, EV for EG&G, MR for Mercury and ** for your terminal.

The system assumes that 132 characters are available for printing at the destination. An example of a FINAL REPORT is shown in Table I and an example of an EDIT LISTING is shown in Table VII.

If the output <PARAMETER> is FILE, then the <FILENAME> requested by the system is 1 to 7 characters where the first character is a letter and the rest of the characters are letters or numbers. The system then requires the user's ID (assigned to the user initially with his account). If a file by the same name already exists under this ID, a new cycle will be created. All cycles of multiple-cycled files up to five are individually available for further retrieval operations. The saved files are in exactly the same format as the primary data base file. An example of the use of <PARAMETER>=FILE procedure is illustrated in Table VIII and the layout of a row of data is shown in Table IX.

The DISPLAY command outputs results on the users terminal in an 80-column format. The form of the DISPLAY command is:

DISPLAY ON TERMINAL.CR

In this mode the STATE and LOG NUMBER keyword values of the retrieved data are not printed. Note the example of this condensed form of a listing in Tables X and XI. If the DISPLAY and OUTPUT commands are both used, only the last one is valid. If neither are used, the DISPLAY command is assumed.

The OMIT command replaces specified data fields with blanks on output. The general form of the OMIT command is:

OMIT <KEYWORD1>,<KEYWORD2>...,<KEYWORDN>.CR

The valid keywords are listed in Table III. The keywords BKGD EXPOSURE RATE and COMMENTS are not valid in the OMIT command. If the user desires to OMIT data in the VALUE column then BKGD EXPOSURE RATE data will also be omitted in the data printout.

The commands RETRIEVE, SORT, HELP, OUTPUT, DISPLAY, and OMIT comprise those commands used during a retrieval sequence. The command

FINISHED.CR

indicates the end of a retrieval sequence. After the FINISHED command, the user may input another retrieval sequence which is also ended with a FINISHED command. There is practically no limit to the number of retrieval sequences which may be constructed in one session.

To indicate that no additional retrieval sequences are desired, type:

ENDRUN.CR

After ENDRUN, all of the retrieval sequences are executed and the user is returned to the normal computer operating system (command mode).

NOTE: None of the retrieval sequences will start until the ENDRUN command is entered.

To continue operations on the database system, type:

CALL EPADB,*EPADB. CR (to return to the data base system)

An example of two retrieval sequences in one session is shown in Table X. The same example of retrieval sequences accomplished in two sessions is shown in Table XI.

Dosimetry Data Base

To select dosimetry data, type:

SELECT DOSIMETRY DATA BASE.CR

To select a data base generated by a previous retrieval session, type:

SELECT USER DOSIMETRY DATA BASE.CR

If the second option, USER DATA BASE, is chosen, the system will request the information as described in the SURVEY METER section and depicted by Table VIII.

All the commands for the SURVEY METER data base will work for the DOSIMETRY data base. That is, RETRIEVE, SORT, HELP, OUTPUT or DISPLAY, OMIT, FINISHED, and ENDRUN are still valid commands. The keywords and parameter sets are slightly different and are explained in Table IV.

All keywords listed in Table IV except LOCATION, COMMENTS and PERSONS NAME are valid for all commands. The data associated with the PERSONS NAME column have been replaced by blanks in the DOSIMETRY DATA BASE. The actual persons' names are, however, available only by written request to the Director of the Environmental Monitoring Systems Laboratory, Las Vegas.

Only two other keywords can be used in retrievals that involve combinations of fields or ranges of values. These are DATE RANGE, and GRID, which are described in Table VI. The use of DATE RANGE (START END) implies selection of all records where the I DATE $\leq$ END and C DATE $\geq$ START. That is, the DATE RANGE specifies a range when the dosimeter was in the field. An example of a retrieval, with an EDIT LISTING is in Table XII. The FINAL REPORT format for dosimetry data is illustrated in Table II. Table XIII contains the record layout for dosimetry data.

Abbreviations

The commands RETRIEVE, SORT, HELP, OUTPUT, DISPLAY, OMIT, FINISHED, and ENDRUN are not abbreviated. The words RECORDS BY following SORT and RETRIEVE may be shortened to BY or omitted. In the SELECT command the words may be replaced by their respective abbreviations.

DOSIMETRY DATA BASE	DOS
USER DOSIMETRY DATA BASE	UD
SURVEY METER DATA BASE	SM
USER SURVEY METER DATA BASE	USM

A complete list of abbreviations for keywords is contained in Tables III, IV, VI, and XIV.

TABLE I. FINAL REPORT FOR SURVEY METER DATA

(USER DEFINED TITLE GOES HERE.*) **EMSL-LV SURVEY METER DATABASE** 80/02/28

AGENCY	LG	RT	SHOT	DATE	TIME	UTM COORD	NEAREST TOWN AND STATE	METER TYPE	GROSS EXPOSURE RATE	BKGD EXPOSURE RATE	UNIT	COMMENTS
* EPA *	25	GA	BEE	550315	800	11SQN2401	PIOCHE NV	MX-5	1.E-02	1.E-02	MR/H	
* EPA *	25	GA	BEE	550315	815	11SQM2891	PIOCHE NV	MX-5	1.E-02	1.E-02	MR/H	
* EPA *	25	GA	BEE	550315	830	11SQN2402	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	850	11SQN1514	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	910	11SQN1129	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	925	11SQN0945	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	940	11SQN0561	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	955	11SQN0575	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	1040	11SQN0569	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	1050	11SQN0754	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	1105	11SQN1137	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	1125	11SQN1220	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	
* EPA *	25	GA	BEE	550315	1140	11SQN1907	PIOCHE NV	MX-5	2.E-02	2.E-02	MR/H	

* Maximum of 100 characters

TABLE II. FINAL REPORT FOR DOSIMETRY DATA

(USER DEFINED TITLE GOES HERE.*) EMSL-LV DOSIMETRY DATA BASE FINAL REPORT PAGE: 1

AGENCY	LOG	SHOT NAME	I DATE	C DATE	STATION	UTM COORD	NEAREST TOWN	ST	LOCATION	B	PERSON'S NAME	EXPOSURE
EPA	142	PLUMBBOB	570511	570930	386J	12SUT2451	MILFORD	UT	429 SOUTH MAIN CLINIC	B		5.0E01
EPA	142	PLUMBBOB	570708	570930	386P	12SUT2451	MILFORD	UT	44 NORTH 500 WEST	B		0.E00
EPA	143	PLUMBBOB	570513	570930	386B	12SUT2451	MILFORD	UT	MILFORD PUBLIC LIBRARY	B		5.0E01
EPA	143	PLUMBBOB	570513	570930	386C	12SUT2451	MILFORD	UT	2 MAIN STREET	B		0.E00

* Maximum of 100 characters

TABLE III. KEYWORDS FOR USE WITH THE COMMANDS IN THE RETRIEVAL SEQUENCE FOR SURVEY METER DATA

KEYWORD (APPLICABLE ABBREVIATION)	PARAMETER DESCRIPTION
AGENCY	UP TO FIVE ALPHABETIC CHARACTERS DESCRIBING THE AGENCY RESPONSIBLE FOR THE ORIGINAL DATA.
LOG NUMBER (L)	TWO ALPHANUMERIC CHARACTERS. THESE CHARACTERS IDENTIFY THE ACTUAL DOCUMENT OR LOG FROM WHICH THE INFORMATION WAS TRANSCRIBED.
RADIATION TYPE (R)	TWO ALPHABETIC CHARACTERS. 'AL' = ALPHA RADIATION DATA. 'GA' = GAMMA RADIATION DATA. 'GB' = GAMMA AND BETA RADIATION DATA.
SHOT NAME (SHOT)	THE SHOT NAME FOR EXAMPLE: 'BOLTZMANN'.
DATE (D)	SIX NUMERIC DIGITS, IN THE FORM YYMMDD, FOR EXAMPLE: 550322 IS MAR. 22, 1955.
TIME (T)	FOUR NUMERIC DIGITS, IN THE FORM HHMM. THE TIME IS CODED IN MILITARY CONVENTION. FOR EXAMPLE: 9:00 AM IS 0900 WHILE 9:00 PM IS 2100.
COORDINATE (C)	NINE ALPHANUMERIC CHARACTERS. THE COORDINATE IS CODED IN THE UNIVERSAL TRANSVERSE MERCATOR (UTM) SYSTEM.
NEAREST TOWN (N)	ELEVEN ALPHABETIC CHARACTERS IDENTIFYING THE TOWN NEAREST TO WHERE THE READING WAS TAKEN.
STATE	TWO ALPHABETIC CHARACTERS SPECIFYING THE LOCATION OF THE TOWN.
METER TYPE (M)	SIX ALPHANUMERIC CHARACTERS IDENTIFYING THE TYPE OF METER USED TO TAKE THE READING.
VALUE (V)	ACTIVITY READING OF THE SURVEY METER. UP TO 3 SIGNIFICANT DIGITS IN EXPONENTIAL NOTATION. FOR EXAMPLE: 100. IN EXPONENTIAL NOTATION IS 1.00E02.
BKGD EXPOSURE RATE	BACKGROUND READING IF AVAILABLE. UP TO 2 SIGNIFICANT DIGITS OR NOTE.
UNITS OF READING (U)	OUTPUT IDENTIFYING THE UNITS OF THE READING. EDIT LISTING / FINAL REPORT 61 = MICROR/HR / MICROR/HR 64 = MR/HR / MR/HR 65 = COUNTS/MIN / COUNTS/MIN
COMMENTS	UP TO 320 CHARACTERS OF MISCELLANEOUS INFORMATION.

TABLE IV. KEYWORDS FOR USE WITH THE COMMANDS IN THE RETRIEVAL SEQUENCE FOR DOSIMETRY DATA

KEYWORD (APPLICABLE ABBREVIATION)	PARAMETER DESCRIPTION
AGENCY	UP TO FIVE ALPHABETIC CHARACTERS DESCRIBING THE AGENCY RESPONSIBLE FOR THE ORIGINAL DATA.
LOG NUMBER (L)	3 NUMERIC CHARACTERS. THESE CHARACTERS IDENTIFY THE ACTUAL DOCUMENT OR LOG FROM WHICH THE INFORMATION WAS TRANSCRIBED.
SHOT NAME (SHOT)	THE SHOT NAME FOR EXAMPLE: 'BOLTZMANN' (OR TEST SERIES NAME SUCH AS TEAPOT, PLUMBBOB, ETC.)
I DATE* (D-R)	THE DATE THE DOSIMETER WAS PLACED IN THE FIELD. SIX NUMERIC DIGITS, IN THE FORM YYMMDD.
C DATE* (D-R)	THE DATE THE DOSIMETER WAS COLLECTED. SIX NUMERIC DIGITS, IN THE FORM YYMMDD, FOR EXAMPLE: 550322 IS MAR. 22, 1955.
STATION	NINE ALPHANUMERIC CHARACTERS. A CODE DESCRIBING THE LOCATION OF THE DOSIMETER.
COORDINATE (C)	NINE ALPHANUMERIC CHARACTERS. THE COORDINATE IS CODED IN THE UNIVERSAL TRANSVERSE MERCATOR (UTM) SYSTEM.
NEAREST TOWN (N)	ELEVEN ALPHABETIC CHARACTERS IDENTIFYING THE TOWN NEAREST THE POINT WHERE THE MEASUREMENT WAS TAKEN.
(LOCATION)*	23 ALPHANUMERIC CHARACTERS OF MISCELLANEOUS INFORMATION.
B	ONE ALPHABETIC CHARACTER INDICATING THE BADGE TYPE. I = INDOOR O = OUTDOOR B = BOTH U = UNKNOWN
(PERSON'S NAME)*	18 BLANK CHARACTERS.
VALUE (V)	THE VALUE OF THE DOSIMETER IN MR. UP TO 4 SIGNIFICANT DIGITS IN EXPONENTIAL NOTATION.

* Cannot be used as keywords.

TABLE V. EXAMPLE OF LOGIN PROCEDURE

```
DOE/NVCCF INTERCOM 5.0
Terminal type? la36
xxxxxxxxxx USER NAME?
xxxxxxxxxx PASSWORD?
xxxxxxxxxx BUDGET NUMBER?
xxxxxxxxxx Optional budget number?
User T8, Eqp=004/34, Logged in on 80/03/13 at 16.59.19
EFFECTIVE MARCH 17, ONE PHONE NUMBER (734-3431) SHOULD BE USED BY ALL
DIAL-UP USERS, FOR BOTH 300 AND 1200 BAUD TERMINALS.  AFTER CONNECTION
IS ESTABLISHED, IT WILL BE NECESSARY TO ENTER A "CARRIAGE RETURN" IN
ORDER TO RECEIVE THE "TERMINAL TYPE?" QUERY.

COMMAND-
```

Note: All user input appears in lower case symbols, all computer output appears in upper case symbols.

TABLE VI. EXTRA KEYWORDS USED ONLY WITH THE RETRIEVE COMMAND

KEYWORD (APPLICABLE ABBREVIATION)	PARAMETER SET DESCRIPTION
TIME INTERVAL (T-I)	SELECT ALL DATA RECORDS BETWEEN A START DATE AND TIME AND AN ENDING DATE AND TIME. THE DATE AND TIME IN THE FORM: YYMMDD, HHMM, YYMMDD, HHMM. START START ENDING ENDING DATE TIME DATE TIME.
DATE RANGE (D-R)	SELECT ALL RECORDS FALLING BETWEEN THE TWO DATES SPECIFIED. THE DATES ARE IN THE FORM YYMMDD, YYMMDD START END
TIME RANGE (T-R)	SELECT ALL RECORDS FALLING BETWEEN THE TWO TIMES SPECIFIED. THE TIMES ARE IN THE FORM HHMM, HHMM START END
GRID (G)	SELECT ALL RECORDS WHOSE UTM COORDINATES ARE IN THE GRID SPECIFIED. THE GRIDS ARE IN A FORM CONSISTING OF 5 ALPHANUMERIC CHARACTERS IN THE FORM NNXXX WHERE N ARE DIGITS AND X ARE ALPHABETIC CHARACTERS FOR EXAMPLE, 11SPL IS A GRID DESIGNATION.
VALUE (V)	SELECT ALL RECORDS WHOSE VALUES ARE SPECIFIED BY THE AMOUNT FOLLOWING THE 'VALUE' KEYWORD.
VALUE GREATER THAN OR EQUAL (V GE or V >=)	SELECTS ALL RECORDS WHOSE VALUES ARE GREATER THAN OR EQUAL TO THE SPECIFIED VALUE FOLLOWING THESE KEYWORDS.

TABLE VII. EDIT LISTING FOR SURVEY METER DATA

EMSL-LV SURVEY METER DATA BASE EDIT LISTING

	RECORD	CARD IMAGE											COMMENT FILE POINTERS--ERROR FLAG
		LG	RT	SHOT	NAME	DATE	TIME	UTM COORD	NEAREST TOWN	METER	GROSS	BKGD	UT
* EPA *	1	25	GA	BEE		550315	800	11SQN2401	PIOCHE	NV MX-5	1.E-02	1.E-02	64
* EPA *	2	25	GA	BEE		550315	815	11SQM2891	PIOCHE	NV MX-5	1.E-02	1.E-02	64
* EPA *	3	25	GA	BEE		550315	830	11SQN2402	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	4	25	GA	BEE		550315	850	11SQN1514	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	5	25	GA	BEE		550315	910	11SQN1129	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	6	25	GA	BEE		550315	925	11SQN0945	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	7	25	GA	BEE		550315	940	11SQN0561	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	8	25	GA	BEE		550315	955	11SQN0575	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	9	25	GA	BEE		550315	1040	11SQN0569	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	10	25	GA	BEE		550315	1050	11SQN0754	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	11	25	GA	BEE		550315	1105	11SQN1137	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	12	25	GA	BEE		550315	1125	11SQN1220	PIOCHE	NV MX-5	2.E-02	2.E-02	64
* EPA *	13	25	GA	BEE		550315	1140	11SQN1907	PIOCHE	NV MX-5	2.E-02	2.E-02	64

TABLE VIII. OUTPUT TO A FILE NAMED PIOCHE UNDER ID EPADB

```
  EMSL-LV
  NTS OFF-SITE HISTORICAL DATA RETRIEVAL
  SYSTEM.  80/03/13  19.55.19.
  ENTER 'HELP.' FOR MORE INFORMATION.

ENTER DIRECTIVE.  > select user survey meter data base.
ENTER USER DATA BASE ACCESS INFORMATION (<= 60 CHARS.)

mini,id=epadb,cy=1,mr=1.
SURVEY MTR DATA BASE SELECTED.

ENTER DIRECTIVE.  > retrieve by shot name bee, nearest town pioche.

ENTER DIRECTIVE.  > output is file pioche.
ENTER ID TO STORE SELECTED DATA BASE RECORDS UNDER:  epadb

ENTER DIRECTIVE.  > finished.

ENTER DIRECTIVE.  > endrun.
     STOP  PARAMETER GENERATION
       .423 CP SECONDS EXECUTION TIME
      13 RECORD(S) RETRIEVED.
     STOP  RETRIEVAL COMPLETED
      2.039 CP SECONDS EXECUTION TIME
  INITIAL CATALOG
  CT ID=    EPADB PFN=PIOCHE
  CT CY= 001  00000320 WORDS.
COMMAND-
```

TABLE IX. RECORD LAYOUT FOR SURVEY METER DATA

	Column
RECORD STATUS	1
LOG NUMBER	2-3
RADIATION TYPE	4-5
SHOT NAME	6-15
DATE	16-21
TIME	22-25
COORDINATE	26-34
NEAREST TOWN	35-45
STATE	46-47
METER TYPE	48-53
GROSS READING	54-61†
BACKGROUND READING	62-68†
UNITS OF READING	69-70
AGENCY CODE	71*
COMMENT KEY #1	72-77**
COMMENT KEY #2	78-83
COMMENT KEY #3	84-89
COMMENT KEY #4	90-95

* 0 - UNKNOWN, 1 - EPA, 2 - VSC (Vay Shelton Committee), 3 - DOD, 4 - LLNL, 5 - LANSL, 6 - SNV, 7 - UCLA, 8 - REECo

** Comment key pointers are zero if no comments.

† 0.0E-59 => OFFSCALE
0.0E-69 => BACKGROUND
0.0E-90 => NOT RECORDED

TABLE X. TWO RETRIEVAL SEQUENCES IN ONE SESSION

```
COMMAND- call epadb,*epadb


  EMSL-LV
  NTS OFF-SITE HISTORICAL DATA RETRIEVAL
  SYSTEM.  80/03/13  19.38.05.
  ENTER 'HELP.' FOR MORE INFORMATION.

ENTER DIRECTIVE.  > select user survey meter database.
ENTER USER DATA BASE ACCESS INFORMATION (<= 60 CHARS.)
mini,id=epadb,cy=1,mr=1.
SURVEY MTR DATA BASE SELECTED.

ENTER DIRECTIVE.  > retrieve by shot bee, nearest town desert rock, t-i
                    550322, 0800, 550322, 2359.*

ENTER DIRECTIVE.  > omit units.

ENTER DIRECTIVE.  > display on terminal.

ENTER DIRECTIVE.  > finished.

ENTER DIRECTIVE.  > select user survey meter database.
ENTER USER DATA BASE ACCESS INFORMATION (<= 60 CHARS.)
mini,id=epadb,cy=1,mr=1.
SURVEY MTR DATA BASE SELECTED.

ENTER DIRECTIVE.  > retrieve by shot bee, n milford.

ENTER DIRECTIVE.  > display on terminal.

ENTER DIRECTIVE.  > finished.

ENTER DIRECTIVE.  > endrun.
     STOP  PARAMETER GENERATION
       .684 CP SECONDS EXECUTION TIME
       3 RECORD(S) RETRIEVED.
     STOP  RETRIEVAL COMPLETED
       2.031 CP SECONDS EXECUTION TIME
```

Note: Notice the use of OMIT and abbreviations t-i for TIME INTERVAL and n for NEAREST TOWN

* In practice this entry must be performed on one line, it is wrapped here in order to comply with the report format required for this user's manual.

(continued)

TABLE X. (Continued)

```
*EPA* GA BEE        550322 1111 11SNL8553 DESERT ROCK MX-5   2.E-02          0

*EPA* GA BEE        550322 1115 11SNL8553 DESERT ROCK MX-5   2.E-02          0

*EPA* GA BEE        550322 1118 11SNL8553 DESERT ROCK MX-5   2.E-02          0
      3 RECORD(S) RETRIEVED.
    STOP RETRIEVAL COMPLETED
     2.010 CP SECONDS EXECUTION TIME

  ********************************************************
  *                                                      *
  * NOTE:  THIS IS A CONDENSED LISTING, THE LOG NUMBER   *
  *  AND STATE FIELDS ARE NOT DISPLAYED.                 *
  *                                                      *
  ********************************************************

*EPA* GA BEE        550322 1005 12SUT2550 MILFORD     MX-5   2.E-02  2.E-02 64

*EPA* GA BEE        550322 1022 12SUT2451 MILFORD     MX-5   2.E-02  2.E-02 64

*EPA* GA BEE        550322 1032 12SUT1456 MILFORD     MX-5   2.E-02  2.E-02 64
COMMAND-

  ********************************************************
  *                                                      *
  * NOTE:  THIS IS A CONDENSED LISTING, THE LOG NUMBER   *
  *  AND STATE FIELDS ARE NOT DISPLAYED.                 *
  *                                                      *
  ********************************************************
```

Note: The note is a reminder by the system that a condensed listing occurs when the display on terminal command is used. This only happens during Survey Meter retrievals. If a final report is requested from the Survey Meter Data Base and routed to the terminal, wrap around occurs since the system is expecting 132 columns. No mechanism is available to condense dosimetry listings. The display on terminal and the final report command both produce wrap around on the output listings.

TABLE XI. TWO RETRIEVAL SESSIONS, AN ALTERNATIVE METHOD
(SAME INFORMATION AS TABLE IX IN REVERSE SEQUENCE)

```
  EMSL-LV
  NTS OFF-SITE HISTORICAL DATA RETRIEVAL
  SYSTEM.  80/03/03  14.57.40.
  ENTER 'HELP.' FOR MORE INFORMATION.

ENTER DIRECTIVE.  > select user survey meter database.
ENTER USER DATA BASE ACCESS INFORMATION (<= 60 CHARS.)
mini,id=epadb,cy=1,mr=1.
SURVEY MTR DATA BASE SELECTED.

ENTER DIRECTIVE.  > retrieve by shot name bee, nearest town milford.

ENTER DIRECTIVE.  > display on terminal.

ENTER DIRECTIVE.  > finished.

ENTER DIRECTIVE.  > endrun.
     STOP  PARAMETER GENERATION
       .365 CP SECONDS EXECUTION TIME        3 RECORD(S) RETRIEVED.
     STOP  RETRIEVAL COMPLETED
       1.967 CP SECONDS EXECUTION TIME

  ******************************************************
  *                                                    *
  * NOTE:  THIS IS A CONDENSED LISTING, THE LOG NUMBER*
  *  AND STATE FIELDS ARE NOT DISPLAYED.               *
  *                                                    *
  ******************************************************

*EPA* GA BEE         550322 1005 12SUT2550 MILFORD     MX-5   2.E-02  2.E-02 64

*EPA* GA BEE         550322 1022 12SUT2451 MILFORD     MX-5   2.E-02  2.E-02 64

*EPA* GA BEE         550322 1032 12SUT1456 MILFORD     MX-5   2.E-02  2.E-02 64

COMMAND- call epadb,*epadb

  EMSL-LV
  NTS OFF-SITE HISTORICAL DATA RETRIEVAL
  SYSTEM.  80/03/03  15.02.18.
  ENTER 'HELP.' FOR MORE INFORMATION.

ENTER DIRECTIVE.  > select user survey meter database.
ENTER USER DATA BASE ACCESS INFORMATION (<= 60 CHARS.)
mini,id=epadb,cy=1,mr=1.
SURVEY MTR DATA BASE SELECTED.
```

(continued)

TABLE XI. (Continued)

```
ENTER DIRECTIVE.  > retrieve by shot name bee, nearest town desert rock, time
                    interval 550322, 0800, 550323, 2359.

ENTER DIRECTIVE.  > display on terminal.

ENTER DIRECTIVE.  > sort by date, time.

ENTER DIRECTIVE.  > finished.

ENTER DIRECTIVE.  > endrun.
     STOP  PARAMETER GENERATION
       .431 CP SECONDS EXECUTION TIME
***KEY COMPARISON USED
 ** INSERTIONS DURING INPUT     *********0
 ** DELETIONS DURING INPUT      *********0
 ** TOTAL RECORDS SORTED        *********3
 ** INSERTIONS DURING OUTPUT    *********0
 ** DELETIONS DURING OUTPUT     *********0
 ** TOTAL RECORDS OUTPUT        *********3
 ** MERGE ORDER USED            ********11
 ** END SORT RUN
       3 RECORD(S) RETRIEVED.
     STOP  RETRIEVAL COMPLETED
      2.233 CP SECONDS EXECUTION TIME

  ******************************************************
  *                                                    *
  * NOTE:  THIS IS A CONDENSED LISTING, THE LOG NUMBER*
  *  AND STATE FIELDS ARE NOT DISPLAYED.               *
  *                                                    *
  ******************************************************

*EPA* GA BEE        550322 1111 11SNL8553 DESERT ROCK MX-5      2.E-02    64

*EPA* GA BEE        550322 1115 11SNL8553 DESERT ROCK MX-5      2.E-02    64

*EPA* GA BEE        550322 1118 11 NL8553 DESERT ROCK MX-5      2.E-02    64
```

TABLE XII. EDIT LISTING FOR DOSIMETRY DATA

```
  EMSL-LV
  NTS OFF-SITE HISTORICAL DATA RETRIEVAL
  SYSTEM.  80/03/17  08.35.56.
  ENTER 'HELP.' FOR MORE INFORMATION.

ENTER DIRECTIVE.  > select dosimetry database.
DOSIMETRY  DATA BASE SELECTED

ENTER DIRECTIVE.  > retrieve by shot plumbbob, nearest town milford, d-r  570511, 571203.

ENTER DIRECTIVE.  > output is edit listing.
ENTER REPORT TITLE (MAXIMUM OF 100 CHARACTERS)
user defined title goes here (max. of 100 chars.)
ENTER OUTPUT DESTINATION:  **

ENTER DIRECTIVE.  > finished.

ENTER DIRECTIVE.  > endrun.
     STOP  PARAMETER GENERATION
       .411 CP SECONDS EXECUTION TIME
      4 RECORD(S) RETRIEVED.
     STOP  RETRIEVAL COMPLETED
     35.484 CP SECONDS EXECUTION TIME
```

EMSL-LV DOSIMETRY DATA BASE EDIT LISTING

RECORD	LOG	SHOT NAME	I DATE	C DATE	STATION	UTM COORD	NEAREST TOWN	LOCATION	B	PERSON'S NAME	EXPOSURE/MR	
1	142	PLUMBBOB	570511	570930	386J	12SUT2451	MILFORD	UT429 SOUTH MAIN CLINIC*	B		5.0E01	EPA
2	142	PLUMBBOB	570513	571226	386D	12SUT2451	MILFORD	UT19 NORTH 300 WEST	B		0.E00	EPA
3	142	PLUMBBOB	570528	571212	694A	12STT8963	MILFORD	UT	B		0.E00	EPA
4	142	PLUMBBOB	570708	570930	386P	12SUT2451	MILFORD	UT44 NORTH 500 WEST	B		0.E00	EPA

* Location output is all on one line when output by the system. Wrap around is displayed here to comply with formal report format.

TABLE XIII. RECORD LAYOUT FOR DOSIMETRY

	Column
RECORD STATUS	1
LOG NUMBER	2-4
SHOT NAME	5-13
ISSUE DATE	14-19
COLLECT DATE	20-25
STATION ID	26-34
COORDINATE	35-43
NEAREST TOWN	44-54
STATE	55-56
LOCATION	57-79
BADGE TYPE	80
PERSONS NAME	81-98*
EXPOSURE READING	99-107†
AGENCY CODE	108**
COMMENT KEY #1	109-114***
COMMENT KEY #2	115-120
COMMENT KEY #3	121-126
COMMENT KEY #4	127-132

* Normally Blank.

** 0 - UNKNOWN, 1 - EPA, 2 - VSC (Vay Shelton Committee), 3 - DOD, 4 - LLL, 5 - LASL, 6 - SNV, 7 - UCLA, 8 - REECo

*** Comments key pointers are zero if no comments.

† 0.0E-59 => OFFSCALE
0.0E-69 => BACKGROUND
0.0E-90 => NOT RECORDED

TABLE XIV. ABBREVIATIONS FOR KEYWORDS AND DATA BASE COMMANDS

KEYWORD	ABBREVIATION
GRID	G
DATE	D
DATE RANGE	D-R
TIME INTERVAL	T-I
TIME RANGE	T-R
COORDINATE	C
LOG NUMBER	L
RADIATION TYPE	R
SHOT NAME	SHOT
TIME	T
NEAREST TOWN	N
METER TYPE	M
VALUE	V
UNITS	U

DATA BASE COMMANDS	ABBREVIATION
DOSIMETRY DATA BASE	DOS
USER DOSIMETRY DATA BASE	UD
SURVEY METER DATA BASE	SM
USER SURVEY METER DATA BASE	USM